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METHODS OF IMPROVING THE TECHNIQUE OF TEACHING¹

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The demand that supervisors increase materially the amount of time and thought which they give to the improvement of classroom teaching has become so insistent that it cannot be disregarded. It finds justification in the fact that the results of instruction frequently prove to be inadequate when they are subjected to careful scrutiny or to scientific tests. Progressive supervisors in various parts of the country have recognized the validity of this demand and they have been making detailed studies of the methods which can be used in improving the technique of teaching. As a result numerous methods and devices have been developed which are suggestive and, in many cases, genuinely effective. It is the purpose of this discussion to describe in considerable detail some of the methods which are employed by supervisors in improving the quality of teaching.

In order to determine how supervisors aid their teachers the following questions were presented to approximately two hundred elementary-school teachers in June of the current year: (1) Name briefly five ways in which your principal or superintendent helped you last year with teaching problems. (2) Describe in detail the most helpful plan or device which was used. (3) How frequently did your superintendent and principal visit you? (4) In what ways did they make their visits of value to you? (5) What were some of the teaching problems on which you received no advice or suggestions but in connection with which you were in genuine need of help?

The replies which were received indicated that approximately one-half the teachers had not received detailed help on their classroom problems. Two explanations for this situation were frequently offered in the reports. The first indicated that supervisors are absorbed in routine and administrative problems and as a result

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have no time for personal contact with classroom problems. The second indicated that supervisors are not intimately acquainted with classroom procedure and are therefore unable to offer appropriate suggestions when they visit the classroom. The first explanation justifies the demand that the supervisor change radically his point of view concerning supervision, or that he readjust his program so that more time is provided for the supervision of classroom work. The second explanation justifies the following demand made by one of the teachers who participated in the investigation:

Only those men and women should be appointed as supervisors who are intimately acquainted with the problems and practices of the classroom, who are intelligently critical of what they observe, who are suggestive and constructive in their discussions of teaching problems, who are genuinely interested in the content and methods of instruction, and who consider the activities of the classroom the most important problems in a school system for study and investigation.

Perhaps all will not agree with the statement in the form in which it was made. There can be no objection, however, to the demand that if supervisors do not already possess these qualities they should continue their study and training until they become intelligent, constructive critics of classroom teaching.

The significant replies which were received organized themselves about six kinds of activities in which supervisors engage to improve the quality of instruction: (1) methods used in developing an intelligent view of teaching problems; (2) types of teachers' meetings and conferences; (3) care and forethought in supplying material equipment which is prerequisite to effective teaching; (4) the supervisor's procedure in visiting recitations; (5) methods of making these visits of value to teachers; (6) the use of tests in improving instruction. In addition to the foregoing a list of problems was prepared on which teachers expressed a need for help.

The reports indicated that supervisors devote a large amount of time to the development of an intelligent view of classroom problems among their teachers. This is in harmony with an accepted principle of supervision which has been stated in the following terms:

Expert supervision should lead teachers to an intelligent view of teaching problems, to a broad range of classroom experience so that the work of one grade may be seen in relation to the work of other grades, and to an understanding of needed revisions, of necessary growth on the part of teachers, and of the final outcomes of instruction.

It is a matter of first importance that supervisors keep their teachers informed in regard to the latest developments in the field of methodology and classroom technique. The teacher in service needs information concerning changing conceptions in regard to teaching, and she needs suggestions concerning new and effective devices which she can employ to advantage. The use of tests in improving instruction is one of the more recent developments in classroom technique concerning which teachers in service need instruction. Teachers who are just beginning their work in a system need an additional type of help. They frequently come with a narrow view of teaching problems or with a background of teaching experience which differs radically from the point of view adopted by a supervisor and his teachers. For illustration, a teacher who teaches by memoriter methods will retard the progress of pupils in a system which emphasizes problem-solving. All teachers should consider from time to time appropriate quantitative and qualitative standards of classroom work inasmuch as progress in a school system will be most rapid and effective when all the teachers work together consistently toward clearly defined and highly desirable ends. The supervisor is the co-ordinating force in a school system who should endeavor to develop unity in the aims and purposes of the various units, and who should keep alive the spirit of investigation in regard to problems of teaching.

The methods which are employed by supervisors to secure these ends vary widely. One method was described by a teacher in the following terms:

Our superintendent is a very progressive man. He attends all the educational meetings that he can, and he reads the latest educational books and current literature. He calls his teachers together frequently to discuss with them significant contributions relating to their teaching problems. He gives us references and illustrations and suggests experiments for us to try in the classroom. The result is we are kept constantly informed in regard to new and better methods of teaching and are stimulated to do our own work better and more thoroughly.

A second teacher made the following statements:

Our principal describes to us from time to time specific illustrations of effective teaching, and he discusses with us constantly the newest methods and devices brought out by research. He describes how we can improve our own teaching through the use of such devices. After these suggestions have been tried in several classrooms the teachers meet to discuss the results.

Teachers commented frequently on the value of the following methods. Supervisors provide a professional library in the school system with duplicate copies, or they arrange with the city library to secure valuable professional texts in duplicate. Few teachers can afford an extensive professional library. If they are to come in contact with significant discussions of teaching problems supervisors must take steps to provide professional books, survey reports, and reports of experimental investigations for their use. I recently visited the library of a progressive city of several hundred thousand for the purpose of securing lists of available references on classroom problems. To my surprise I found but very few modern references in the field of teaching. On inquiry I learned that the library had a large fund available for books and reports in the field of education but that the librarians were unable to secure lists of significant references from the teachers of the city. This is a striking illustration of the failure of supervisors to provide their teachers with an abundance of professional literature with no expenditure and with little time or effort.

Frequent mention was made in the reports of the fact that the professional reading of the year centered about specific problems in methodology, such as how to stimulate reflective thinking, how to conduct a drill lesson, how to teach reading or writing, and how to teach pupils to study effectively. In preparation for reading of this type bibliographies were prepared and distributed to teachers in mimeographed form. The fact that bibliographies were prepared for the teachers economized their time and effort and enabled them to do far more effective work than otherwise in the few hours each week which they have for professional reading. The teachers frequently commented on the fact that readings which centered about the solution of some interesting classroom problem were far more significant and helpful than the usual type of reading circle work.

Mimeographed letters or bulletins sent regularly to teachers are used to distinct advantage in stimulating constructive effort among teachers and in directing their attention to significant problems. Miss Sarah Imboden, supervisor of the elementary grades, Decatur Illinois, sent a letter to her teachers last September, excerpts of which follow. After a few words of greeting to the teachers she said :

Our major emphasis this year will be placed upon—

1. Training pupils how to study.

2. The socialized recitation.
3. The problem attack in teaching.

Much good work along these lines has already been done, I am sure, by many of you. We need, however, to gather together our experiences through discussion, through concrete demonstration, and through grade and group meetings in order that all may profit to the maximum.

As soon as the routine work of the first few days is out of the way I advise that the course of study be read with great care. This is of vital importance and applies as much to those who feel they know the work because of several years of experience in a given grade as to the new teachers in a grade or the system.

The general introduction for each subject should be studied intelligently and thoughtfully that each teacher may have a general perspective of the work as a whole and that she may see how the work assigned to her grade fits into the general course.

Best results in teaching cannot be secured unless we have definite objective ends in view and clearly defined methods of employing them.

The work of the semester needs to be systematically planned into large units, the relative value of each determined, and the necessary time allotment apportioned.

The time required for any given unit will vary with the classes. An arbitrarily defined time allotment for all is perhaps unwise as the work should largely be determined by one's mode of attack and the capacities and interests of the pupils. I shall be glad to help you in this as well as in making out your permanent programs, if you desire such help.

Teachers' meetings provide excellent opportunities for stimulating keen interest in, and an intelligent view of, teaching problems. A large number of teachers reported that their supervisors did not believe in teachers' meetings. As a result no general conferences were held during the year. On the other hand, teachers' meetings were mentioned in many reports as the most helpful method employed by the supervisor to improve the quality of the teaching. Five types of group meetings were mentioned: (1) general teachers' meetings in which a specific classroom problem is discussed in detail; (2) inter-grade meetings in which the problems peculiar to two or three grades are discussed; (3) grade meetings in which detailed plans for meeting grade problems are considered; (4) meetings of special teachers to discuss problems peculiar to their subjects; (5) committee meetings in which to work constructively on some problem or to hear significant reports in regard to work which has been completed.

The following statements made by the teachers give evidence of the value of these meetings:

1. The committee work is the most helpful device used by my principal in improving instruction. Several teachers work together in co-operation with the principal on some problem of vital interest to them and in many cases to all the faculty. In the latter case reports are discussed in faculty meetings and action taken upon them.

2. The superintendent holds grade meetings frequently. We are asked to send in questions or problems for discussion on which we want help. These problems are always discussed in great detail.

3. A voluntary meeting is held each Wednesday afternoon which is attended by all teachers who have special problems or difficulties. These problems are discussed by the teachers and supervisors in a most careful and helpful way.

4. On the last Saturday of each month a teachers' institute is held. Helpful books are studied, classroom problems are discussed, and suggestive lectures are given. These meetings prove effective in stimulating constructive effort among teachers concerning their classroom problems.

The value of co-operative work among teachers and supervisors on aims, content of courses, and methods of teaching was emphasized frequently as a means of developing a comprehensive view of classroom problems. An outstanding illustration in this connection is the co-operative study in curriculum-making which was undertaken by Superintendent H. B. Wilson and the teachers under his supervision in Topeka, Kansas. The purpose of the study was to define significant problems for study in geography in each grade. Problems were to be found which make a strong appeal to pupils and at the same time belong together in a progressive sequence. Numerous problems which had already proved more or less effective in the respective grades were assembled. These were thoroughly discussed and organized in the form of a tentative outline. The teachers made use of the outline in an experimental study of the various problems which were proposed. As experimentation continued, the tentative course was modified and refined along those lines suggested by the investigations. Throughout the period of this co-operative study the teachers served as creative agents in the reorganization of the course of study. This type of constructive effort is not only a means of enriching the course of study and adapting it to the needs of particular schools, but it is also a significant means of securing intelligent insight on the part of teachers into the problems of instruction. Each supervisor should provide frequent opportunity for this type of co-operative effort on the part of teachers both for the specific contribution which it makes in terms of improved courses of study and better methods of teaching

and for the professional interest and growth which is stimulated among teachers when they are permitted to do a piece of constructive work.

An adequate supply of appropriate equipment, reference material, etc., is prerequisite to effective teaching. Many teachers reported that their supervisors give personal attention to problems of equipment, supplying them with supplementary textbooks, reference materials, pictures, laboratory equipment, appropriate desks, etc. A majority of the teachers stated that their supplies of such materials were wholly inadequate and the quality of the classroom work suffered as a result. Reading, for illustration, cannot be taught effectively without appropriate types of reading materials. The short selections contained in most readers are not adequate for project-reading or for teaching pupils to study effectively. Geography cannot be taught adequately without an abundance of illustrative materials. If classroom instruction is to improve as conceptions of teaching change, it is important that supervisors supply teachers with the best equipment possible. I recently visited a school system in which the supervisor was enthusiastic about the problem method of instruction. He had instructed his teachers fully as to the importance of this type of teaching. In no building, however, did I find that teachers had been supplied with the kind or amount of reading materials which are necessary if instruction based on problem-solving is to be carried on effectively. Many supervisors generously tell teachers that they will supply them with anything that they want. The teachers choose as wisely as they can from their limited knowledge of the various possibilities. In many cases far more effective equipment would have been requested had the teacher known of other available materials. It is the function of the supervisor to set up machinery which will bring to his office samples or descriptions of valuable materials for use in the classroom and which will make these available for the use of teachers as rapidly as possible.

One of the most impartial and effective means of improving the quality of teaching is the constant use of tests as a routine part of instruction. In this connection supervisors find it necessary to provide systematic training and instruction for teachers. The following methods were frequently mentioned in the reports. Conferences are held in which teachers are instructed concerning the

purposes and values of tests, and are trained to use them effectively through discussion, demonstration, and use. The use of tests is begun in one or two buildings under the immediate supervision of the principal or superintendent. As the teachers of these schools become more or less expert they are relieved of some of their responsibilities so that they can instruct the teachers in other buildings. This plan has been employed successfully in Rochester, New York. As soon as teachers develop skill in the intelligent use of tests they are encouraged to adopt them as a routine part of their work. The supervisor serves in this connection as a progressive leader in securing results along several lines. Definite standards of accomplishment are determined and adopted. Teachers are instructed concerning major points of emphasis for the system as a whole and for specific schools and grades. The results of tests are thoroughly discussed so that accurate interpretations of their significance can be made. The supervisor holds himself responsible for assembling the scientific material which relates to the problems under consideration, and for their presentation and interpretation to the teaching staff. Provision is made for the frequent discussion of studies which have been made by teachers within the system. Every possible opportunity is utilized to stimulate interest on the part of teachers in making detailed studies of their problems. The most significant results which come from the intelligent use of tests are renewed interest in teaching problems and the spirit of investigation which is developed. The teacher who scrutinizes her work carefully and records accurately becomes more open-minded, more interested in adequate proofs, and less willing to follow the line of least resistance by accepting blindly all things on authority. It is unnecessary to add that such an attitude is fundamental and important if genuine progress is to be made in the improvement of teaching.

The use of tests furnishes evidence that the results of teaching are relatively good or poor. The next step in an adequate scheme of supervision is to determine the extent to which the methods and devices employed by the teacher are appropriate and economical. A teacher who secures results above the average may be doing so at the expense of time and energy through the use of poor methods of teaching. In order to acquaint themselves with the methods which are used by teachers, supervisors make frequent observations of classroom teaching. In this connection a clear distinction should be

made between the administrative and the pedagogical functions of a supervisor. In his pedagogical function the supervisor must be democratic, open-minded, and impartial, and he must serve as a leader or teacher of teachers rather than as a dictator. Inasmuch as methods of teaching are undergoing radical reorganization at the present time he must refrain from assuming that the teacher is the only one to take the learning attitude. On the other hand, the supervisor should be recognized as a persistent, open-minded student of improved methods of teaching.

The reports which were submitted indicate that there is wide variation among supervisors in the frequency with which they visit teachers. Some teachers are visited almost daily and other teachers are visited very infrequently. On the average, teachers are visited once a month by superintendents and once a week by principals.

The procedure followed by supervisors when visiting classrooms differs as widely as the frequency of their visits. Some devote their time wholly to routine matters; some talk to the pupils or conduct a recitation, and others observe the technique employed by the teacher. It is evident that supervisors must give a large amount of attention to teaching problems if the technique of teaching is to be radically improved. Observations are frequently made primarily for the purpose of becoming acquainted with the work of various teachers. It is important that a supervisor familiarize himself early in the year with the quality of the teaching which each teacher in the system is doing. After the first month, however, observations will be much more effective if they are organized for the purpose of studying in detail the technique of teaching different subjects or of conducting various types of classroom exercises. In this connection the following suggestive plan was described by Leonard Power in the *Elementary School Journal*, February, 1919.

After choosing a subject for study the principal should reread at least three or four books on special methods in the subject to be studied. He should then plan his visits to include two visits to each teacher teaching the subject to be studied. To do this he needs a copy of each teacher's program at his desk. With the programs before him he should carefully schedule his visits, keeping in mind his office duties, possible conflicts, and the avoidance of visiting the same teacher after too short an interval.

This plan has many distinct advantages. The teaching problems which are observed and discussed in the classroom can be made the subjects of careful study and consideration by the teachers. Bibliog-

raphies can be prepared and distributed. The discussions in the teachers' meetings can center about these problems. Demonstration lessons can be given to illustrate effective methods of teaching. Committees can be appointed to make studies of appropriate supplies and materials for use in the classroom. Groups of teachers can assume responsibility for collecting descriptions of devices and methods which can be employed in improving the technique of teaching. In fact, the method of studying classroom technique in terms of a series of problems provides opportunity for emphasizing significant points with so much vigor and in so much detail that the teacher's point of view and technique of teaching can be radically modified.

When a supervisor undertakes the observation and criticism of classroom teaching he is confronted with a significant problem: By what standards or principles shall I judge the adequacy of the teacher's methods? Two sources of information are available and can be used to distinct advantage in this connection. The first is the summary of the principles derived through scientific experiments which underlie the effective and economical teaching of various elementary-school subjects. These principles are stated in clear, concise terms in the *Eighteenth Yearbook of the National Society for the Study of Education*, Part I. A supervisor can use these principles in judging the validity of various phases of the teacher's work. For illustration, the article on handwriting states what the best practices are concerning the position of the body, arm, hand, and paper, the slope of the writing, the best kinds of movements to employ, the effect of age and maturity on writing, and the most effective methods and devices to employ in teaching children to write. The twenty-eight principles which are included can be used most effectively in a thoroughgoing critical study of the technique of teaching handwriting. Similar sets of principles are found in the *Yearbook* for reading, spelling, and arithmetic.

The second body of information is the principles which underlie good practice in the general field of methodology. These principles appear for the most part in the general- and special-methods books on educational psychology and in recent articles. Several attempts have been made of late to summarize this extensive literature in terms of a series of principles or questions relating to the more significant types of teaching problems. In *School and Home Education*,

December, 1918, Herbert G. Lull summarized the most important points relating to pupil and teacher activities in several different types of classroom exercises. These outlines can be used to distinct advantage by supervisors in critical studies of teaching.

The reports which were submitted indicated that supervisors employ a variety of methods in making the hour spent in the classroom of value to teachers. Confidence is manifested in the teacher's plans and purposes; teachers are encouraged by favorable comments; strong and weak points in teaching are discussed and helpful suggestions are offered whenever necessary; written summaries of suggestions are checked; record blanks are filed with the teacher; pupils are questioned to determine the adequacy of the teaching; experiments are outlined and general changes in methods of teaching are recommended; devices are suggested for economizing time and effort; teachers are instructed in methods of analyzing the effectiveness of their own teaching.

The value of training teachers to analyze the results of their own teaching cannot be overestimated. Teachers frequently do good or poor teaching in certain subjects without knowing why the results are satisfactory or unsatisfactory. The supervisor can contribute largely to the teacher's equipment by training her to analyze critically and intelligently the results of her own efforts in a recitation. A device which is frequently employed in this connection has many interesting possibilities. After a drill recitation has been observed, a supervisor hands to the teacher a copy of an outline containing the important points which should be considered in a given type of recitation with the request that she review her own procedure and estimate her efficiency as accurately as she can on each point. An appointment for a conference is then made. During the conference the supervisor and the teacher compare notes. The strong points in the teacher's work are commented on and the contributing causes are considered. The weak points are discussed and remedial measures are suggested. Differences in the judgments of the supervisor and the teachers are frequently revealed. These differences form a definite point of departure for profitable and thorough-going discussions. It frequently happens that the teacher has standards which are too high or too low and which can be clarified through discussion. In many cases teachers do not have definite clear-cut ideas in regard to the characteristics of effective teaching.

These conferences provide an excellent opportunity for the discussion of valid standards.

Careful observations of recitations frequently suggest a variety of constructive measures which can be initiated by a supervisor. Detailed conferences with individual teachers have already been mentioned. The following devices were suggested by teachers in the reports: Group conferences are held to discuss problems which are common to several classrooms; bulletins of suggestions are sent to teachers concerning various phases of their work; suggestive articles, books, and bibliographies are sent to teachers; demonstration lessons are given to illustrate effective teaching technique; and schedules of visits are organized so that each teacher can observe the methods employed by other teachers in securing effective results.

One of the most effective devices for securing continuous growth on the part of teachers consists of a weekly report prepared by each teacher and sent to the supervisor on some important problem in methodology. As worked out by Professor E. A. Turner at the Illinois State Normal University, the weekly report blanks call for the following points:

1. The major problem in method attempted last week.
2. A description of the means employed in its solution.
3. A statement of the progress which was made.
4. A discussion of the obstacles which interfered with best results.
5. A statement of the major problem for solution next week.
6. A description of the means to be employed.
7. A discussion of the obstacles which will probably be encountered.

In order to aid the teacher in locating her major teaching problem a list of twenty or twenty-five questions similar to the following are included with the directions:

1. How can I improve my mastery of the subject-matter which is taught?
2. How can I improve the form and effectiveness of my questions?
3. How can I make the recitation move forward quickly and to the point?
4. How can I reduce my own activity in the recitation, at the same time increasing pupil activity?
5. How can I make drill lessons more effective?
6. How can I develop a studious attitude on the part of children?

The teacher is instructed to study the list and to review carefully her own teaching problems for the purpose of selecting a problem in method on which to center attention for a week. There are many advantages secured through the use of this plan: It directs the

teacher's attention to significant problems in teaching; it leads to a careful analysis of her strong and weak points; it concentrates constructive effort for a period of time on a single problem of methodology; it requires careful analysis and resourcefulness and usually leads to rapid growth; it secures for the supervisor a body of information concerning the needs of teachers which enables him to distribute his time and energy among them in harmony with their respective needs; and finally it leads to a continuous critical study of problems of methodology and technique so frequently not found in otherwise progressive school systems.

In order to secure a suggestive list of teaching problems about which supervisors could organize observations, conferences, and discussions to advantage, the teachers were asked to report the problems on which they needed help. The following representative list is an illuminating one. The individual items are listed approximately in the order of their frequency.

1. How to teach pupils to read silently and to study effectively.
2. How to conduct supervised study periods effectively.
3. How to secure an adequate amount of appropriate reference material.
4. How to teach problem-solving lessons effectively.
5. How to conduct a socialized recitation.
6. How to keep bright pupils busy and slow ones up to the standard.
7. How to secure better home work when there are no supervised study periods.
8. What are the most important outcomes of instruction in each subject?
9. Where to place the emphasis in each subject and how to progress with sufficient rapidity.
10. What appropriate standards of work are for each grade.
11. How to find out the most effective helps, references, maps, devices, materials, etc., for teaching each subject.
12. How to interest and control unruly pupils.
13. Special problems relating to particular subjects:
 - a) How to teach such texts as *Tarr and McMurry's Geography* when pupils are unable to read them understandingly.
 - b) How to make language work as interesting as arithmetic.
 - c) How to make the work in geography interesting to all pupils.
 - d) How to make knowledge of correct forms in English function in free expression.
 - e) How much time should be spent in map study in the seventh grade?
 - f) How to teach long division effectively.
 - g) How to stress industrial and commercial geography in a vital way.
 - h) How to secure correct movement and letter form in all written work.